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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,728	01/26/2004	Lothar Stadelmeier	282727US8X	2657

22850 7590 10/28/2008

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EXAMINER	
PHAN, MAN U	
ART UNIT	PAPER NUMBER
2419	

NOTIFICATION DATE	DELIVERY MODE
10/28/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/765,728	STADELMEIER ET AL.	
	Examiner	Art Unit	
	Man Phan	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-18,20-23 and 25-30* is/are rejected.

7)☒ Claim(s) *19 and 24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment and Argument

1. This communication is in response to applicant's 07/14/2008 Amendment in the application of Stadelmeier et al. for the "Method for operating an RLAN arrangement" filed 01/26/2004. This application claims foreign priority based on the application 03 002 025.9 filed January 28, 2002 in European Patent Office (EPO). The amendment and response has been entered and made of record. Claims 14, 19, 22, 23 have been amended, and new claims 24-30 have been added. Claims 14-30 are pending in the application.

2. Applicant's remarks and argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C. 103 as discussed below. Applicant's argument with respect to the pending claims have been fully considered, but they are not persuasive for at least the following reasons.

3. In response to Applicant's argument that the reference does not teach or reasonably suggest the functionality upon which the Examiner relies for the rejection. The Examiner first emphasizes for the record that the claims employ a broader in scope than the Applicant's disclosure in all aspects. In addition, the Applicant has not argued any narrower interpretation of the claim limitations, nor amended the claims significantly enough to construe a narrower meaning to the limitations. Since the claims breadth allows multiple interpretations and meanings, which are broader than Applicant's disclosure, the Examiner is required to interpret the claim limitations in terms of their broadest reasonable interpretations while determining

patentability of the disclosed invention. See MPEP 2111. In other words, the claims must be given their broadest reasonable interpretation consistent with the specification and the interpretation that those skilled in the art would reach. See *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000), *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999), and *In re American Academy of Science Tech Center*, 2004 WL 1067528 (Fed. Cir. May 13, 2004). Any term that is not clearly defined in the specification must be given its plain meaning as understood by one of ordinary skill in the art. See MPEP 2111.01. See also *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003), *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003). The interpretation of the claims by their broadest reasonable interpretation reduces the possibility that, once the claims are issued, the claims are interpreted more broadly than justified. See *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). Also, limitations appearing in the specification but not recited in the claim are not read into the claim. See *In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)*. Therefore, the failure to significantly narrow definition or scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims in parallel to the Applicant in the response and reiterates the need for the Applicant to distinctly define the claimed invention.

4. Applicant's argument with respect to the rejected claims that the cited references fails to disclose or suggest "while data is transmitted over the wireless network" or "whenever the

network device is not sending data" as claimed. However these are the two basic steps for the network device during normal operation (*data is transmitted over the network*) or during the detecting operation (*network device is not sending data*). However, McFarland teaches that detecting radar during network initialization may be easier because there is no network traffic flowing (*network device is not sending data*) at that time that could obscure radar pulses (Col. 11, lines 44-51). McFarland also discloses the Point Coordination Function (PCF) mechanism. During a PCF polling period, if the access point does not poll a station, there should be no network traffic (*network device is not sending data*), thus providing a period of quiet time on the network. In one embodiment, the access point is configured to send a PCF beacon on a periodic basis, such as once every 100 milliseconds. During this time, in which the network traffic should be ceased (*network device is not sending data*), the access point can perform a radar detection process (Col. 12, lines 51 plus).

Since no substantial amendments have been made and the Applicant's arguments are not persuasive, the claims are drawn to the same invention and the text of the prior art rejection can be found in the previous Office Action. Therefore, the Examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al. (US#6,697,013).

Regarding claims 27 and 30, the references disclose a novel system and method for detecting and avoiding interference with radar signals in wireless network devices, according to the essential features of the claims. McFarland et al. (US#6,697,013) discloses in Fig. 1 illustrates the coverage area overlap and interference problems associated with 5 GHz WLAN systems (*signal overlaps with a currently used communication channel*). As illustrated in Fig. 1, a radar system 107 comprising a radar source 106 operating in coverage area C may also overlap one or more of the coverage areas operated by an access point. The overlap between coverage area C and coverage area B illustrates potential radar interference with the WLAN traffic between access point 102 and its respective mobile terminals (Col. 3, lines 31 plus). McFarland also discloses in Fig. 2 a general circuit diagram illustrated a receiver circuit for a networked WLAN device such as access point 102, that includes a radar detection circuit 210 and avoidance system that enables the WLAN system 103 to detect the interfering radar signals (*detecting the*

presence of the radar signal), possibly identify the radar source 106 (if its signature or profile is known), and switch to a channel that is free of the radar interference (*the process of changing a communication channel*)(Col.4, lines 18 plus). McFarland further teaches that detecting radar during network initialization may be easier because there is no network traffic flowing (*network device is not sending data*) at that time that could obscure radar pulses (Col. 11, lines 44-51). McFarland also discloses the Point Coordination Function (PCF) mechanism. During a PCF polling period, if the access point does not poll a station, there should be no network traffic (*network device is not sending data*), thus providing a period of quiet time on the network. In one embodiment, the access point is configured to send a PCF beacon on a periodic basis, such as once every 100 milliseconds. During this time, in which the network traffic should be ceased (*network device is not sending data*), the access point can perform a radar detection process (Col. 12, lines 51 plus).

It's noted that Wireless Local Area Network (WLAN) devices must coexist with radar in the 5 GHz frequency bands. Interference mitigation techniques are required to enable WLAN devices to share these frequency bands with radar systems. The general requirement is that these devices detect interference, identify the radar interfering sources, and avoid using the frequencies used by the radar. Dynamic Frequency Selection (DFS) is used as a spectrum sharing mechanism by certain standards committees that define rules dictating the use of the 5 GHz space. For example, the European Telecommunications Standards Institute (ETSI), which is involved in developing standards for Broadband Radio Access Networks (BRAN), requires that transceiver equipment for use in HIPERLAN (High Performance Radio Local Area Networks) employ DFS mechanisms to detect interference from other systems to enable avoidance with co-channel

operations with these other systems, notably radar systems. The goal is to provide a uniform spread of equipment loading across a number of channels, such as fourteen channels of 330 MHz each, or 255 MHz each for equipment used only in bands 5470 MHz to 5725 MHz.

Regarding claims 25, 28, they are method claims corresponding to the apparatus claims 27, 30 above. Therefore, claims 25, 28 are analyzed and rejected as previously discussed in paragraph above with respect to claims 27, 30.

Regarding claims 26, 29, these claims differ from claims McFarland et al. (US#6,697,013) in that the claims recited a computer program product for performing the same basis of steps and apparatus of the prior art as discussed in the rejection of claims 27, 30 and 25, 28 above. It would have been obvious to a person of ordinary skill in the art to implement a computer program product in McFarland et al. (US#6,697,013) for performing the steps and apparatus as recited in the claims with the motivation being to provide the efficient enhancement to the detecting and avoiding interference with radar signals in wireless network devices, and easy to maintenance, upgrade.

One skilled in the art of communications would recognize the need for a novel system and method for operating an RLAN arrangement, and would apply the 802.11-type for avoiding interference between radar signals and McFarland's system for detecting and avoiding interference with radar signals in wireless network devices. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify McFarland's radar detection and dynamic frequency selection for wireless LANs with the motivation being to provide a system and method for operating an RLAN arrangement.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 14-18, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188).

With respect to claims 14 and 20, 21, 23, the references disclose a novel system and method for detecting and avoiding interference with radar signals in wireless network devices, according to the essential features of the claims. McFarland et al. (US#6,697,013) discloses in Fig. 1 a schematical diagram illustrated an RLAN arrangement includes the coverage area overlap and interference problems associated with 5 GHz WLAN systems. In system 100, two independent networks 103 and 105 are installed near to each other. Within their respective

coverage areas, access points (AP) 102 and 104 provide access to a fixed backbone network such as an Ethernet LAN or an IEEE 1394 network. Each network 103 and 105 also includes a number of mobile terminals (MT) wirelessly coupled to their respective network access points. Each mobile terminal can associate and dissociate with access points in the radio coverage area. The two radio coverage areas A and B are shown to overlap, thus illustrating the possibility of interference between the WLAN devices (mobile terminals and/or access points) in the coverage areas. The core fixed networks for the access points are in general not the same, and therefore there is no coordination between the two independent coverage areas. Digital Frequency Selection (DFS) within each independent wireless network may be used to control the radio frequency to allow independent WLANs to co-exist in overlapping zones. DFS techniques allow each access point to choose a frequency with sufficiently low interference; and other mechanisms, such as Transmission Power Control (TPC) reduces the range of interference from terminals, increasing spectral efficiency via more frequent channel re-use within a given geographic area. As illustrated in FIG. 1, a radar system 107 comprising a radar source 106 operating in coverage area C may also overlap one or more of the coverage areas operated by an access point. The radar source could be a fixed radar source, such as a radar transmitter, or it could be a mobile radar source, such as an airplane. The overlap between coverage area C and coverage area B illustrates potential radar interference with the WLAN traffic between access point 102 and its respective mobile terminals. In one embodiment of the present invention, access point 102 includes a radar detection and avoidance system that enables the WLAN system 103 to detect the interfering radar signals, possibly identify the radar source 106 (if its signature or profile is known), and switch to a channel that is free of the radar interference. For system

100 in Fig. 1, access point 102 includes a radar detection system that detects the presence of interfering radar signals. It is assumed that the access point equipment operates in the frequency ranges of 5.15 GHz to 5.35 GHz. This frequency range is generally divided into ten channels of 20 GHz each. Of these, typically eight are available for use by the access point. Upon initialization, for a given channel, the access point listens to detect whether any radar signals are present. If a radar signal is present, the access point WLAN device switches to another channel, until it finds one that is free of radar signal traffic. This allows the dynamic selection of frequencies within the 5 GHz frequency space to avoid interfering with radar sources (Col. 2, lines 45 plus and Col. 3, lines 15 plus).

In the same field of endeavor, Khun-Jush et al. (US#7,024,188) teaches a method for use in a wireless LAN-system of the 802.11-type for avoiding interference between radar signals and the signals exchanged between a plurality of wireless broadcasting nodes in the system. Khun-Jush discloses a method for use in a wireless communications system with a plurality of broadcasting nodes, comprising the step of enabling one node in the system to function as a central node in said system and letting said node enable measurements on at least one frequency in a frequency band used by the system. Said measurements are carried out to detect if said at least one frequency is being utilized by a transmitter foreign to the system. Preferably, the measurement is enabled by means of the node transmitting a message to other nodes in the system, said message being a message pre-defined within the system as a message prohibiting all nodes from transmitting during a certain interval, said message being transmitted after the system has been detected by the node to be silent during a predefined interval between frame transmissions from the nodes in the system (the Abstract and Col. 15, lines 61 plus).

It's also noted that Wireless Local Area Network (WLAN) devices must coexist with radar in the 5 GHz frequency bands. Interference mitigation techniques are required to enable WLAN devices to share these frequency bands with radar systems. The general requirement is that these devices detect interference, identify the radar interfering sources, and avoid using the frequencies used by the radar. Dynamic Frequency Selection (DFS) is used as a spectrum sharing mechanism by certain standards committees that define rules dictating the use of the 5 GHz space. For example, the European Telecommunications Standards Institute (ETSI), which is involved in developing standards for Broadband Radio Access Networks (BRAN), requires that transceiver equipment for use in HIPERLAN (High Performance Radio Local Area Networks) employ DFS mechanisms to detect interference from other systems to enable avoidance with co-channel operations with these other systems, notably radar systems. The goal is to provide a uniform spread of equipment loading across a number of channels, such as fourteen channels of 330 MHz each, or 255 MHz each for equipment used only in bands 5470 MHz to 5725 MHz.

Regarding claims 15-18, Khun-Jush further teaches a method by means of which a wireless communications system can detect the presence of radar signals transmitted on the frequency band which has been assigned to the communications system. During the time reserved by the RDD for a transmission, the RDD does not transmit but will only measure. Therefore, this measurement is not disturbed by other RLAN devices (with some rare exceptions that an RLAN device has not received the RTS). Because the RTS transmission request has to use the standardized competition period within DCF, the access on the transmission channel may be delayed if the traffic load in the neighborhood is high. Therefore, the time T_I can only roughly assessed. It is therefore proposed to give an RLAN device, which has to detect radar, a

higher priority during the competition period than other RLAN devices. It is further proposed to control this priority by the definition of a new inter frame space RIFS (Radar Inter Frame Space). RIFS shall be shorter than DIFS, but larger than SIFS. Possibly it is equal to PIFS. I.e. SIFS<RIFS<=PIFS<DIFS. In this case no additional frame space has to be specified, only that the RDD or another device, which silences the medium is allowed to us PIFS to get access to the medium, has to be specified.

Regarding claim 22, this claim differs from claims McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188) in that the claims recited a computer program product for performing the same basis of steps and apparatus of the prior arts as discussed in the rejection of claims 14, 20-21 above. It would have been obvious to a person of ordinary skill in the art to implement a computer program product in McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188) for performing the steps and apparatus as recited in the claims with the motivation being to provide the efficient enhancement to the detecting and avoiding interference with radar signals in wireless network devices, and easy to maintenance, upgrade.

One skilled in the art of communications would recognize the need for a novel system and method for operating an RLAN arrangement, and would apply Khun-Jush's novel use of signaling measurement in a wireless LAN-system of the 802.11-type for avoiding interference between radar signals into McFarland's system for detecting and avoiding interference with radar signals in wireless network devices. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Khun-Jush's wireless communications system with detection of foreign radiation sources into McFarland's radar

detection and dynamic frequency selection for wireless LANs with the motivation being to provide a system and method for operating an RLAN arrangement.

Allowable Subject Matter

11. Claims 19, 24 are objected to as being dependent upon the rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

12. The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein in the step of setting the transmitting power level, the second threshold represents a detection level of radar signals, radar signals having a higher signal level than the detection level are detectable with a first detection rate, and radar signals having a lower signal level than the detection level are detectable with a second detection rate, the first detection rate being higher than the second detection rate, as specifically recited in the claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Miyashita (US#7,263,366) is cited to show the channel selection method, and wireless station and wireless terminal employing it.

The Soomro et al. (US#7,120,138) is cited to show the dynamic frequency selection with recovery for a basic service set network.

The Jaszewski et al. (US#6,208,629) is cited to show the method and apparatus for assigning spectrum of Local Area network.

The Cervello et al. (US#6,985,465) is cited to show the dynamic channel selection scheme for IEEE 802.11 WLANs.

The Cave et al. (US#7,016,684) is cited to show the wireless communication method and apparatus for implementing access point startup and initial channel selection process.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION THIS ACTION IS MADE FINAL**. See MPEP ' 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 27229884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

Oct. 21, 2008

/Man Phan/

Primary Examiner, Art Unit 2419